

CHRONOLOGY OF SIGNIFICANT EVENTS

RELATING TO

ATLAS AND COALINGA ASBESTOS SITES

- 5/19-21/80 EPA representatives visited the Arroyo Pasajero and collected water and stream sediment samples for asbestos fiber analysis. The asbestos content of soil samples taken throughout the New Idria Formation and in off-site stream channels ranged from 5 to 15 percent by sample weight.
- 8-9/80 The Metropolitan Water District (MWD) of Southern California conducted an extensive sampling program along the California Aqueduct. From this sampling program it was determined that the Atlas and Coalinga sites were a probable source of asbestos in the California Aqueduct (asbestos levels up to 2500 MFL found).
- 10/80 The Governor's office called a meeting to discuss alternative solutions to the asbestos problem identified by the MWD survey. At that meeting a decision was made to remove asbestos-containing sediments from the Aqueduct.
- 10/17/80 The Central Valley Regional Water Quality Control Board (CVWQCB) and the California Department of Health Services (DOHS) inspected the Atlas and Coalinga sites to determine if waste discharges were in compliance. The Board concluded that additional corrective measures should be taken to prevent mine- and mill-generated asbestos from entering drainage courses.
- 11/28/80 EPA publishes Water Quality Criteria for asbestos in Federal Register which contain cancer risk levels for asbestos in drinking water (10^{-6} risk is 0.03 MFL - all size fibers). Notice also acknowledges lack of data to conclude that asbestos in water presents a health problem.
- 12/4/80 Ecology and Environment. Inc., a contractor to EPA, investigated the Arroyo Pasajero and proposed alternative remedial measures for control of air and water contamination.

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DESC-CHRONOLOGY OF EVENTS

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- 9/81 The California Department of Water Resources (DWR) began a program to dredge sediment from the California Aqueduct near the town of Coalinga. After removing approximately 250,000 cubic yards of sediment the DWR concluded that additional dredging would be necessary.
- 6/82 The DWR conducted an air quality sampling program at a sediment basin near the Aqueduct. Basin determined to not be contributing to asbestos levels above background.
- 3/83 The CVWQCB collected four surface water samples during a period of high runoff in the Arroyo Pasajero watershed. Asbestos fiber concentrations in these samples ranged from 80,000 to 240,000 MFL.
- 6/83 The U.S. Bureau of Reclamation evaluated runoff and sediment volumes reaching a sediment basin on the west side of the Aqueduct. Other activities included an evaluation of 13 remedial action alternatives.
- 10/26/83 Kickoff meeting with CH2M Hill to develop Remedial Action Master Plan (RAMP) to assess existing data and data needs for site evaluation and cleanup.
- 2-4/84 Ecology and Environment, Inc. developed and implemented a sampling program designed to establish a quantitative asbestos loading vs. streamflow relationship within the Los Gatos Creek watershed. Because precipitation was minimal during the investigation adequate data could not be collected to complete the analyses.
- 4/84 RAMP submitted to EPA. Report concludes additional air, water, and soil sampling in RI/FS needed to determine health threat presented by sites. RI/FS to focus on sites. Multi-agency task force to address areawide problem. RAMP submitted to federal, state, and local agencies for review and comment.
- 5/84 DWR initiated a study to assess the feasibility of installing erosion control structures in the Arroyo Pasajero watershed. This study was designed to evaluate existing stream channel hydraulics and identify locations for erosion control structures.
- 10/29/84 EPA's Science Advisory Board (SAB) issues report that concludes that there is no evidence that ingested asbestos causes cancer. Office of Drinking Water (ODW) does not withdraw asbestos Water Quality Criteria however.
- early 85 National Toxicology Program (NTP) releases draft report to ODW and SAB containing results of a study of a single species of asbestos-fed rat. Some of the male rats later developed benign intestinal lesions.

2-4/85 CH2M Hill, under the EPA REMFIT contract, collected soil, and sediment samples in the vicinity of the Atlas and Coalinga sites. Samples were analyzed for particle size distribution, asbestos and mineral content. Soil and stream bed sediment samples throughout the New Idria Formation and in off-site stream channels contained 0.2 to 980 million asbestos fibers per gram of sample material. High concentrations of arsenic, chromium, mercury, and cobalt were also observed in selected samples.

4/4/85 CH2M Hill submits RI/FS workplan. Plan contains tasks for air, soil, and water sampling.

5/85 REM/FIT contract with CH2M Hill nearing completion. Project given to Woodward-Clyde Consultants (WCC) under REM II contract.

7/9/85 Authorization given to WCC to proceed with RI/FS.

7/23/85 WCC directed to prepare air sampling plan by 8/16/85.

7/30/85 SAB issues second report reiterating previous conclusion that there is no evidence that ingestion of asbestos presents a health risk. SAB had reviewed draft NTP report.

8/19/86 WCC submits draft air sampling plan.

9/12/85 Region 9 decides to remove water sampling activities from RI/FS based on SAB report.

10/11/85 EPA announces it will propose an RMCL for asbestos in water.

10/23/85 WCC RI/FS workplan submitted to EPA. Plan does not address exposure to waterborne asbestos.

11/13/85 EPA publishes in Federal Register proposed RMCL for asbestos in drinking water. Notice cites NTP study results as basis for proposal. (10⁻⁶ cancer risk is 7.1 MFL for fibers greater than 10 microns long.)

11/24/85 WCC directed to revise RI/FS workplan to address waterborne asbestos.

1/31/86
2/18/86 *WCC submits draft ~~RI/FS~~ Quality Assurance Project Plan (QAPP) for RI/FS sampling and analysis activities.*
After four revisions, WCC's air sampling plan approved.

4/3/86 WCC submits revised RI/FS workplan, soil sampling plan, and water sampling plan.

4/29/86

RI/FS workplan approved by EPA - air sampling activities only are authorized. Authorization for remainder of tasks awaiting approval of soil and water sampling plans and obligation of additional funds.

5/20/86

3/87

~~was submits~~ ~~third~~ revision to SAAP.

Tentative date for publication in Federal Register of notice of final rulemaking on RMCL for asbestos.

Winter Air sampling activities postponed to late 1986 because of ~~lack of~~ ~~rain~~ of rain, and ~~start~~ ~~of~~ start of dry summer season.